

and reappears in the mineral form as a phosphate, and is utilized in the production of animal bone. It thus appears that the lecithin bodies are a channel through which the circulation of the element phosphorus is conducted, passing from the mineral, through the vegetable and into the animal kingdom.

Raphides the cause of the acridity of certain plants: H. A. WEBER.—Chemical tests show that the reason why some plants, like *Arisæma*, are acrid, while others also abundantly supplied with raphides, like *Tradescantia*, are not acrid is because the latter have the bundles of raphides surrounded by an insoluble envelope, not present in the former. In the one case the raphides are readily dissolved in the mouth and produce the biting sensation; in the other case they do not dissolve and consequently cannot be tasted.

Botanical Club of the A. A. A. S.

The meetings of the club were held from 9 to 10 A. M., on Thursday, Friday and Saturday of the session of the Association. They were well attended, quite as well in fact as the Section of Biology which followed later in the day. The number of papers presented was unfortunately limited by the brief sessions, but they were of more than usual interest. The following is a summary of the papers read:

Remarks on some apparatus upon exhibition: J. C. ARTHUR.—A brief description of respiration apparatus exhibited by Dr. Atkinson and himself, and also of some other pieces of physiological apparatus. A student's reagent case was also exhibited by Prof. Beal.

*The perfect stage of *Cercospora gossipina*:* GEO. F. ATKINSON.—An account of further studies upon the life history of this parasitic fungus.

Notes on egg plant diseases: B. D. HALSTED.

Distribution of some fungi: L. H. PAMMEL.—A record of the occurrence of some parasitic fungi during 1891. In discussion Prof. L. H. Bailey expressed the opinion that by

extending and increasing such records we might eventually prognosticate with a fair amount of certainty in regard to the probable occurrence of a disease during the coming season, and to state what measures should be taken to hold it in check.

Remarks on a National arboretum: B. E. FERNOW.—After giving reasons why an extensive arboretum at Washington, under the control of the government, would be a valuable acquisition in promoting the development of forestry and allied interests, he presented resolutions addressed to Congress looking to the initiation of such an undertaking. The resolutions were favorably considered, being commended by Messrs. Ward, Riley, Beal, Arthur and others, and were addressed to the Biological Section for further action.

Notes on a new and destructive disease of currant canes: D. G. FAIRCHILD.—An account with drawings and photographs of the dying of the stems, apparently caused by the presence of a mycelial fungus under the bark. No conidial or other fruiting stage was found, although the fungus was made to grow luxuriantly upon slices of potato, agar-agar, etc.

Two new weeds for the United States: J. N. ROSE.—*Orobanche racemosa* occurs in tobacco and hemp fields in Kentucky, and is also reported from one locality in Illinois. What is locally known as Russian cactus, supposed to have been introduced by Russian Jews, has become a pest in the wheat fields of N. Dakota. It is a species of *Salsola*. Prof. L. H. Bailey gave an instance of a new introduction spreading at first in a very threatening manner, but which had practically disappeared in four years after. He thought it required a number of years of observation to say with much certainty that a new plant will make a pernicious weed.

The tubercles on the roots of Ceanothus: GEO. F. ATKINSON.—The tubercles discovered by Prof. Beal, and reported upon last year before the Club, were found upon further study to be caused by a parasitic fungus allied to *Schinzia Alni*, found upon the roots of *Alnus* and *Eleagnus*, and now transferred to the genus *Frankia*.

Notes on the arrow weeds or jumping seeds of Mexico and Central America: C. V. RILEY.—These plants, which are used by the natives to poison arrows, and the seeds of which

have a curious saltatory movement due to the presence of an insect in them, belong to several species of Euphorbiaceous plants. The paper was to record, and to call forth further information on the identity and distribution of the species.

Remarks on the souvenirs prepared by the Botanical Club of Washington: E. F. SMITH.—The souvenirs, consisting of a volume of photographs specially prepared, were presented to members of the club, accompanied by a presentation speech conveying the desire of the local club to make the stay of visiting botanists pleasant and memorable.

Changes in the flora of Franklin county, Ohio, during the past 50 years; a note on plant distribution: W. R. LAZENBY.

Notes on some peculiar fungi: MISS E. A. SOUTHWORTH.—Exhibited and described the structure of a tree fungus, forming indefinite white masses of considerable size, which have been described as a new mineral. They appear to be Fries' plant, *Polyporus officinale*, but their true nature is yet uncertain.

*Notes on *Bareyeidamia parasitica* Karst.:* MRS. E. W. CLAY-POLE.—The fungus was found upon decaying onions from the cellar and always associated with another mould upon which it seemed to be a parasitic. It could not be made to fruit upon artificial culture media.

Methods of collecting and preserving Myxomycetes: O. F. COOK.—For the herbarium the specimens are glued to the cardboard, when not too thick, and another card board laid over the specimen, which is kept from crushing it by strips of cork, and the whole placed in the ordinary packet for fungi. When too thick for this treatment, the card to which the specimen is glued is turned bottom side up into a suitable pasteboard box, which has pieces of cork glued to the inside ends, permitting the card to enter the box only far enough to allow the cover to be put on. The two methods are intended to displace the use of pill boxes.

Remarks on a new and destructive herbarium insect: L. H. DEWEY.—This appears to be unusually dangerous for large collections, as corrosive sublimate does not always check it. It is a geometrid moth, hitherto undescribed, looking in its mature form much like the common clothes moth.

New and little known plants of Alabama: CHAS. MOHR.—Among the rare plants mentioned was *Quercus heterophylla*.

In the discussion which followed Mr. Martindale spoke of the importance of learning still more of the distribution of this species. Mr. Canby thought it a good species. He had specimens in his herbarium from N. Carolina collected by Curtis.

Resolutions were heartily adopted thanking the Botanical Club of Washington for the handsome souvenirs, and for other attentions, which added to the pleasure of the botanists in attendance upon the association.

The following officers were elected for the next meeting: President, V. M. SPALDING, of Ann Arbor, Mich., Vice-President, J. M. COULTER, of Bloomington, Ind., Secretary, D. G. FAIRCHILD, of Washington, D. C.

The Botanical Section of the American Association of Agricultural Colleges and Experiment Stations.— Washington Meeting.

GEO. F. ATKINSON, SEC'Y *pro tem.*

The Section met August 13, in Columbian University, with Chairman B. D. Halsted presiding and Geo. F. Atkinson as secretary *pro tem.* No program being prepared the chairman called upon the members for volunteer papers and discussions.

TRACY, of Mississippi, outlined a plan for the *botanical exhibit at the Columbian Exposition.* Various subjects have already been assigned to specialists, and station workers in botany are requested to suggest other lines of investigation they are engaged upon than those included in the subjects already apportioned. Each one should estimate the amount of space his exhibit would require. The Department of Agriculture will probably provide uniform labels and probably also uniform size and quality of sheets for mounting specimens. Botanists have shown great interest in undertaking the work. Considerable discussion followed in reference to the proper place for the exhibit of fungicides and spraying machinery. The general sentiment seemed to be in favor of a combined exhibit of fungicides and insecticides and machinery, by the botanists, horticulturists, entomologists, and agri-